

FIG. 2A

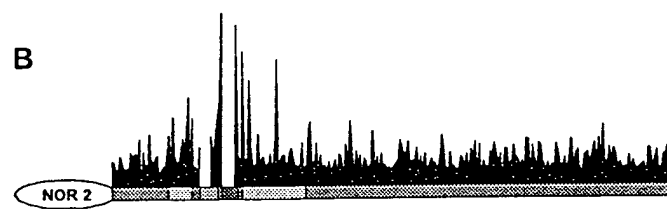


FIG. 2B

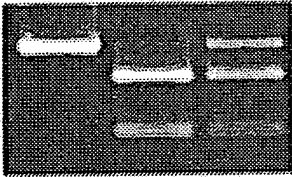
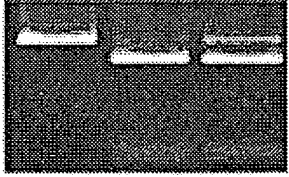
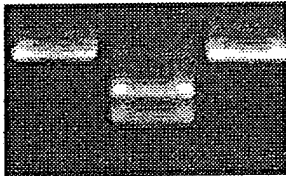
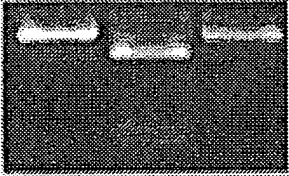
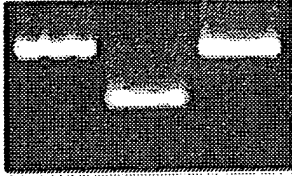
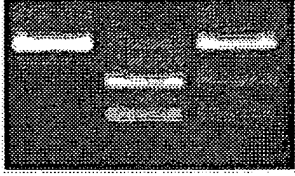
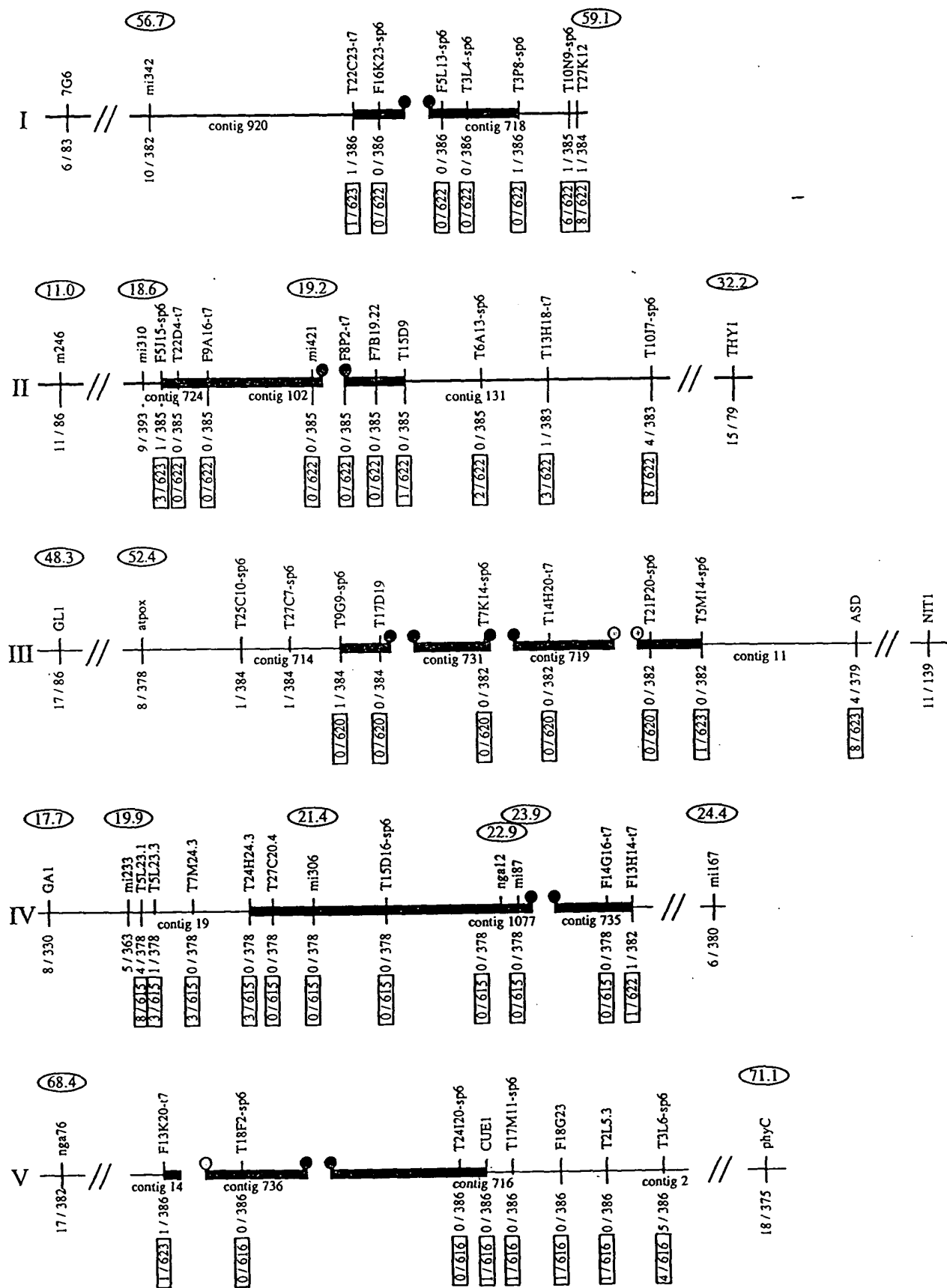
	Upper Strand			Lower Strand		
Bisulfite Treatment	-	-	+	-	-	+
Restriction Enzyme	-	+	+	-	+	+
18. F23H14 (<i>NOR2</i>) Bfa I						
19. K14B15 (<i>EuChr3</i>) EcoR I						
2. T5M2 (<i>CEN2</i>) Alu I						

FIG. 3



200 kb

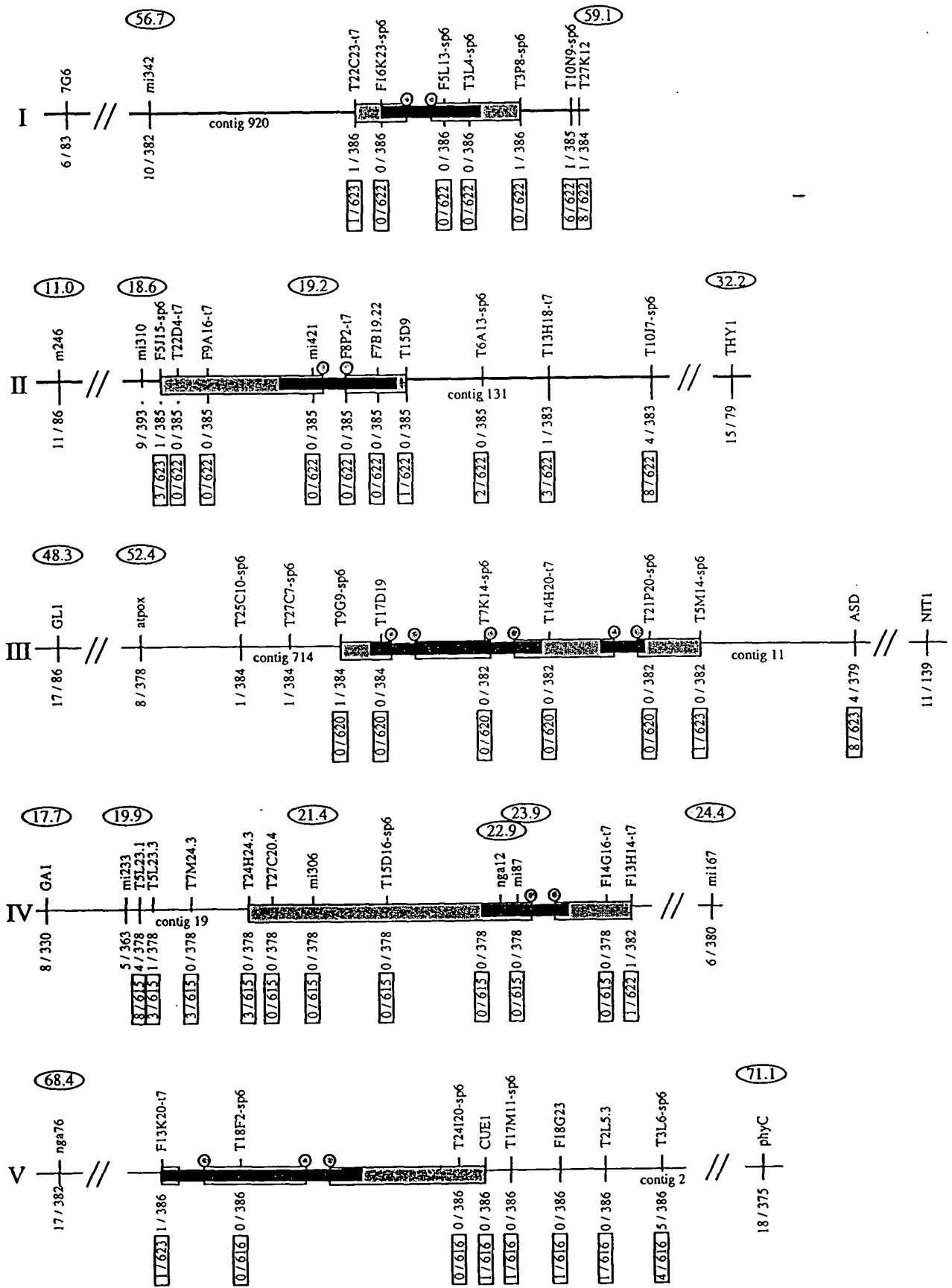


FIG. 4B

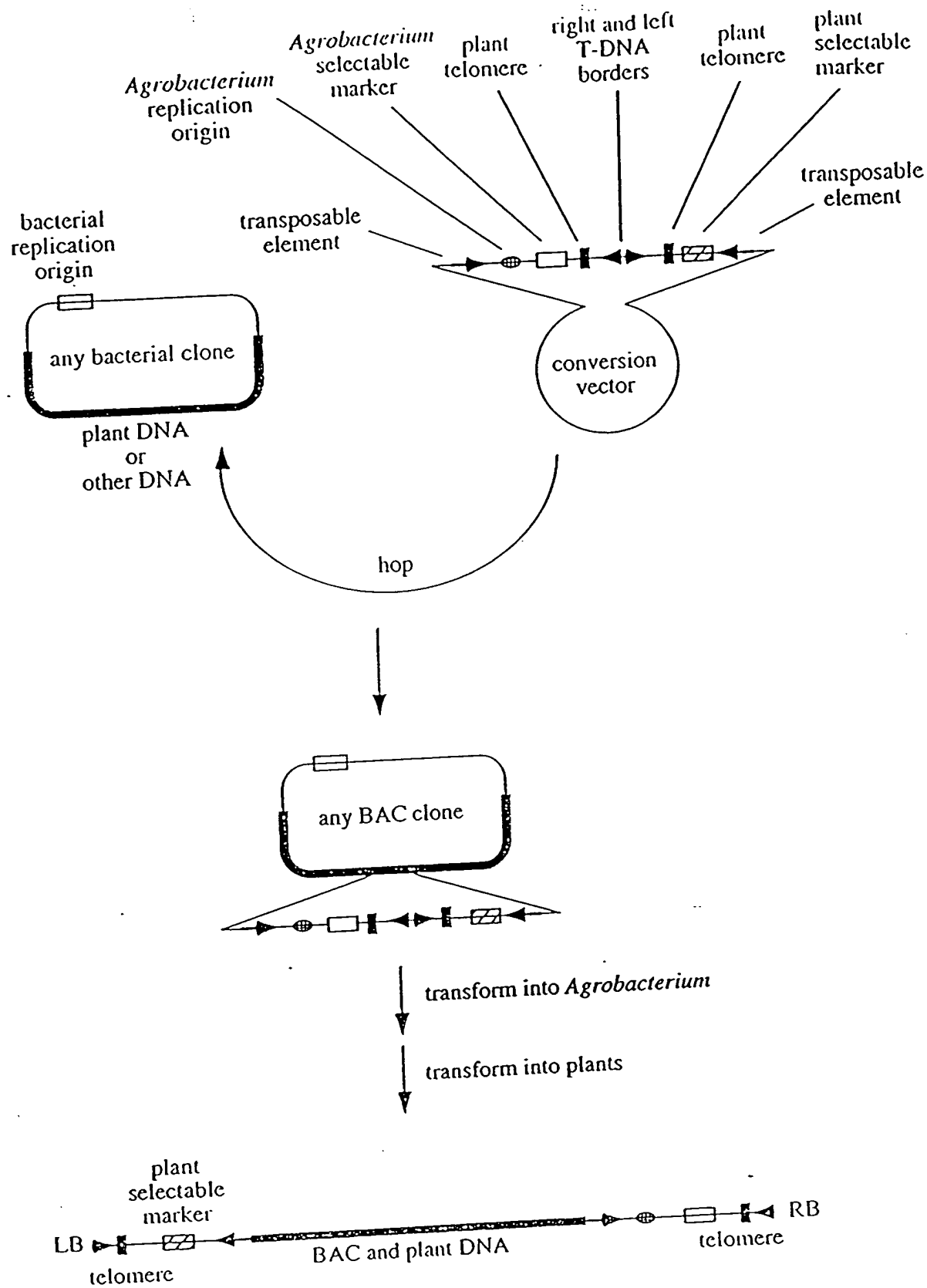


FIG. 5

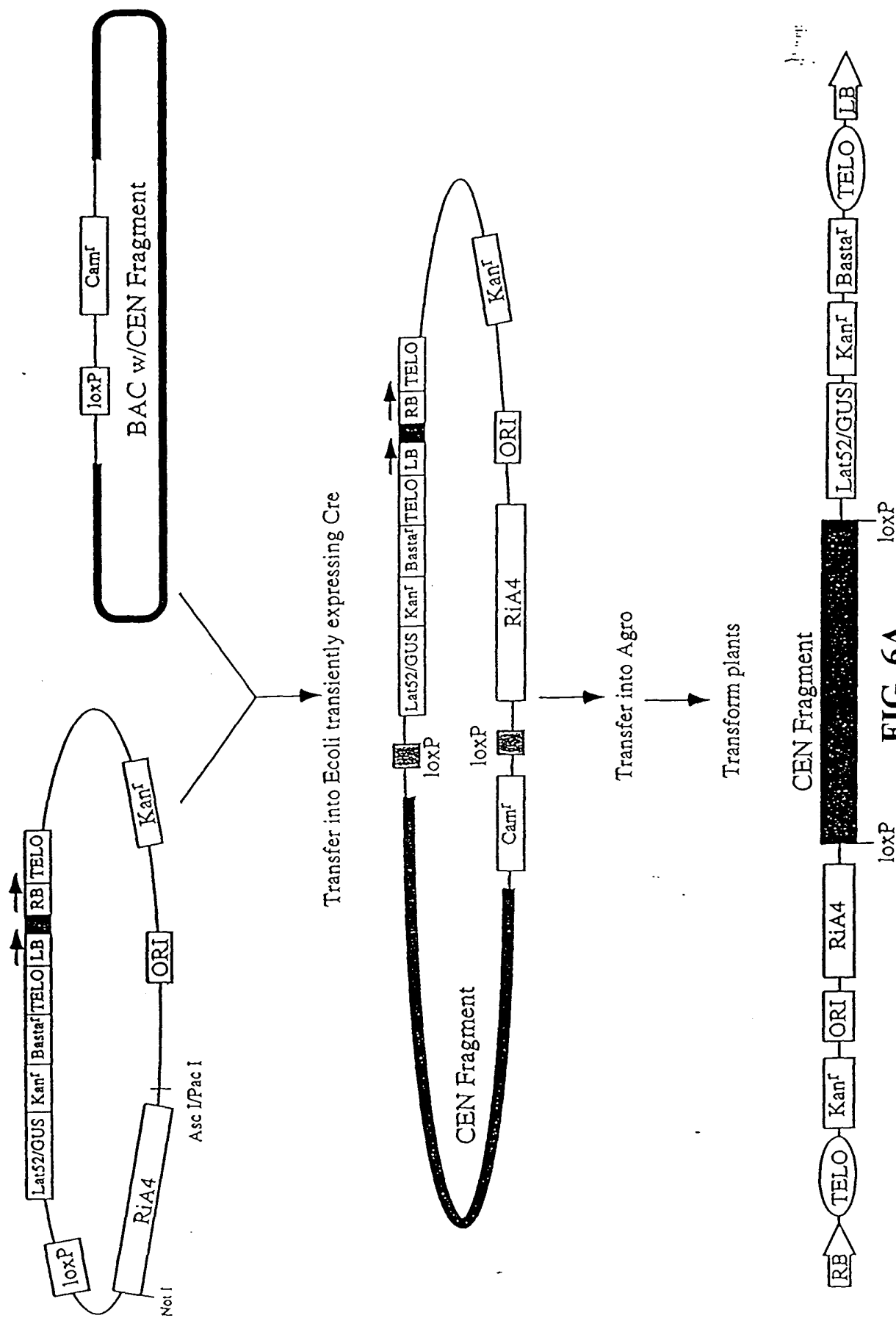


FIG. 6A

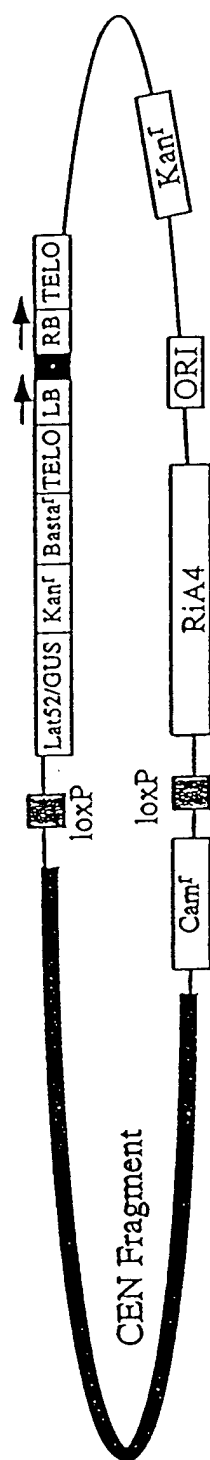


FIG. 6B

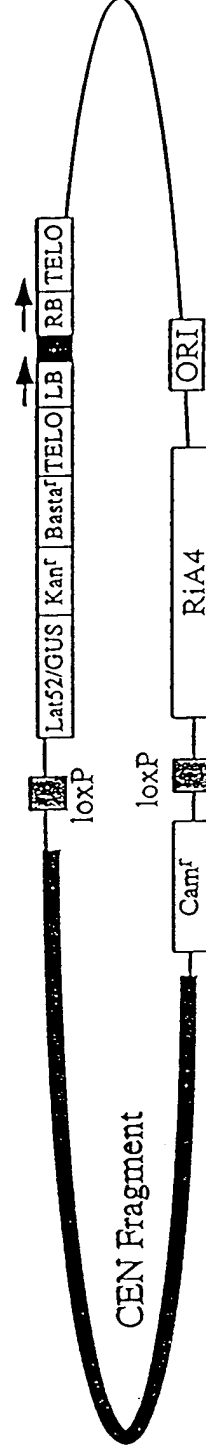


FIG. 6C

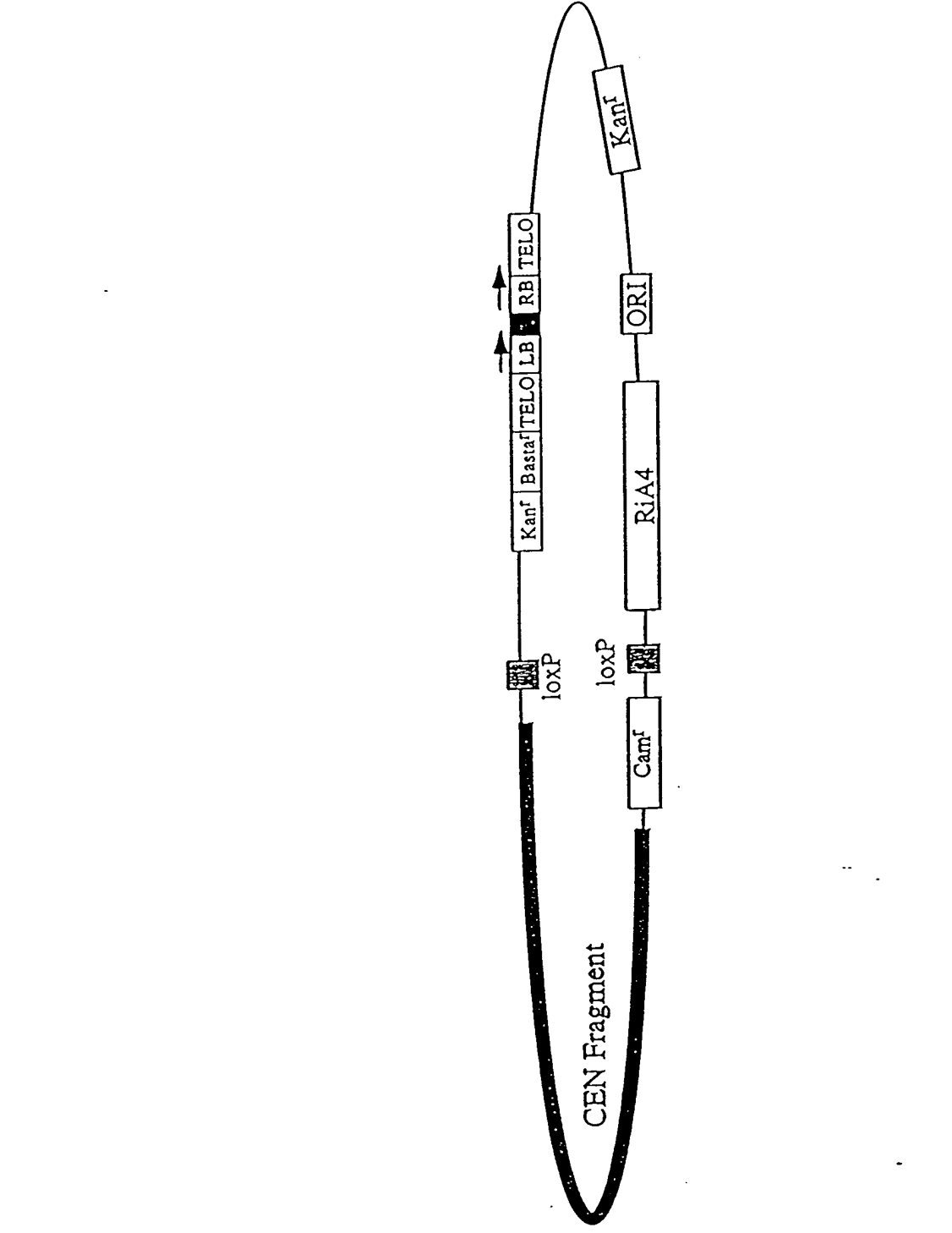


FIG. 6D

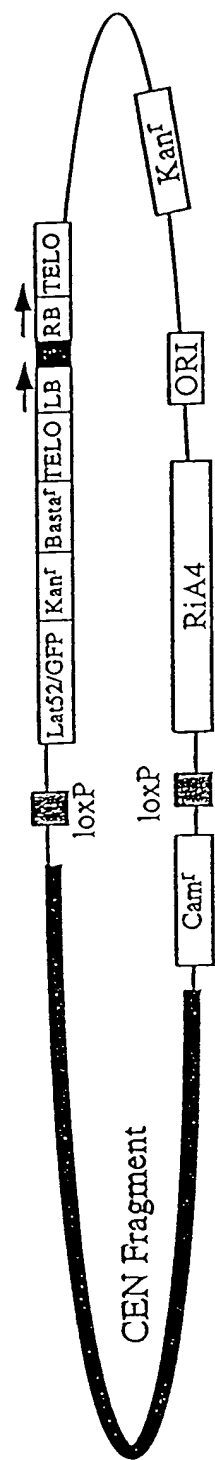


FIG. 6E

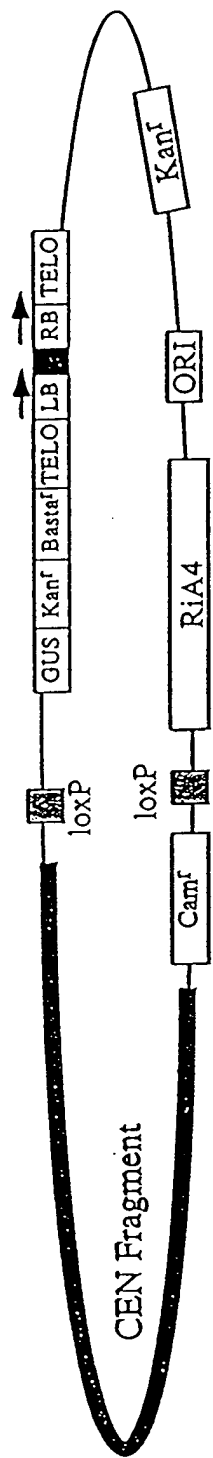


FIG. 6F

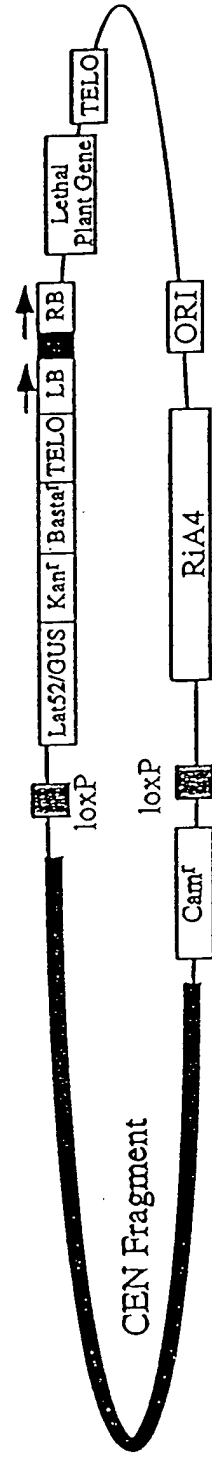
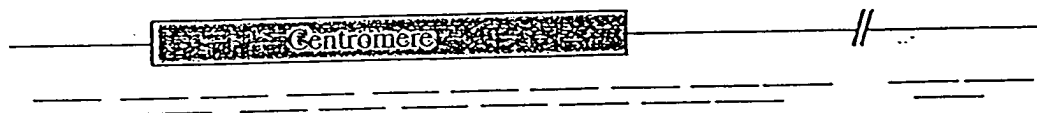
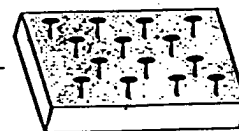


FIG. 6G

1)



2)



3)

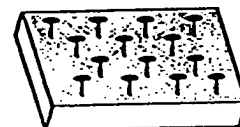
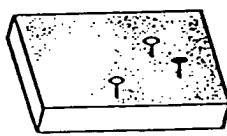
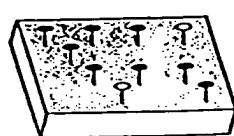


FIG. 7

< 5 Kb Fragments as the Probe



FIG. 8A

>10 Kb Fragments as the Probe

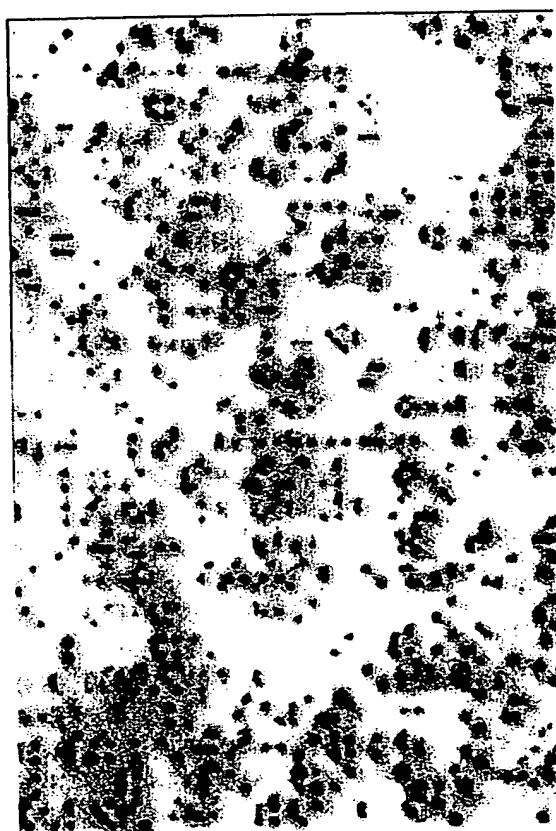


FIG. 8B

CONTIGS	BAC NAME	METHYLATED	UNMETHYLATED	180 BACS
ctg102	M011E12	D		X
ctg102	M023H06	D		X
ctg102	M018G23	L		X
ctg102	M025A16	L		X
ctg102	I022B03	M		
ctg102	M001N07	M		X
ctg102	M012J02	M		X
ctg102	M013M04	M		X
ctg102	M017F23	M		X
ctg102	M019B16	M		X
ctg102	M024P24	M		X
ctg102	M025B08	M		X
ctg102	M025O05	M		X
ctg1077	M007G01	L		
ctg1077	M021I02	L		X
ctg1077	I002K24	M		X
ctg1077	I004A07	M		
ctg1077	I004I21	M		X
ctg1077	I006H08	M		X
ctg1077	I007A08	M		
ctg1077	I008A16	M		X
ctg1077	I008K14	M		X
ctg1077	I008K23	M		X
ctg1077	I009C03	M		X
ctg1077	I009G02	M		X
ctg1077	I009K03	M		X
ctg1077	I009M01	M		X
ctg1077	I009M06	M		X
ctg1077	I009P05	M		X
ctg1077	I012J06	M		X
ctg1077	I013E19	M		X
ctg1077	I013I02	M		X
ctg1077	I014E20	M		X
ctg1077	I015P23	M		X
ctg1077	I016H22	M		X
ctg1077	I017M13	M		X
ctg1077	I017O19	M		X
ctg1077	I017P22	M		X
ctg1077	I018N13	M		X
ctg1077	I020B12	M		
ctg1077	I020F20	M		X
ctg1077	I020J15	M		X

FIG. 9

ctg1077	I020N11	M		X
ctg1077	I021C09	M		X
ctg1077	I022O19	M		X
ctg1077	I024F04	M		X
ctg1077	I024F24	M		X
ctg1077	I024N24	M		X
ctg1077	I025C05	M		X
ctg1077	I027A17	M		X
ctg1077	I028B20	M		X
ctg1077	I028P13	M		X
ctg1077	M010B09	M		X
ctg1077	M010N24	M		X
ctg1077	M013D03	M		
ctg1077	M022M19	M		X
ctg11	M004H13	L		
ctg11	M016E16	L		
ctg11	M022A08	L		
ctg11	M010G14	M	L	
ctg11	M016L05	M	L	
ctg11	I003I14	M		
ctg11	I012H09	M		X
ctg11	I022A03	M		X
ctg11	I028F15	M		X
ctg11	M013G04	M		
ctg11	M015F10	M		
ctg11	M020L24	M		
ctg11	M021P20	M		
ctg11	M022M13	M		
ctg1125	M002F08	D	L	X
ctg1125	I024P12	D	M	X
ctg1125	I009K06	D		X
ctg1125	I010J11	D		X
ctg1125	I011B06	D		X
ctg1125	I011F09	D		X
ctg1125	I017M12	D		X
ctg1125	I018F08	D		X
ctg1125	I021M19	D		X
ctg1125	I021O22	D		X
ctg1125	I022M20	D		X
ctg1125	I025M11	D		X
ctg1125	I026O21	D		X
ctg1125	M003N11	D		X
ctg1125	M004G05	D		X
ctg1125	M008O23	D		X
ctg1125	I003A08	M		X
ctg1125	I003N07	M		X
ctg1125	I012E24	M		X

FIG. 9 (cont'd)

ctg1125	I012L05	M		X
ctg1125	I013J20	M		X
ctg1125	I016L03	M		X
ctg1125	I026K06	M		X
ctg1125	M009J13	M		X
ctg131	M001B02	D		X
ctg131	M004G17	D		X
ctg131	M006C20	D		X
ctg131	M007J20	D		X
ctg131	M009P14	D		X
ctg131	M011F07	D		X
ctg131	M011G09	D		X
ctg131	M016M20	D		X
ctg131	M018J15	D		X
ctg131	M020P21	D		X
ctg131	M029O17	D		X
ctg131	M003D17	L		X
ctg131	M006A13	L		X
ctg131	M008F07	L		X
ctg131	M008P02	L		X
ctg131	M009D23	L		
ctg131	M010B04	L		X
ctg131	M011D05	L		
ctg131	M013A02	L		
ctg131	M013A20	L		X
ctg131	M023J09	L		X
ctg131	M023O05	L		X
ctg131	M027E10	L		X
ctg131	I023C19	M	M	
ctg131	I001H15	M		X
ctg131	I006O14	M		
ctg131	I026B03	M		X
ctg131	I028I04	M		X
ctg131	M002O06	M		
ctg131	M005D06	M		X
ctg131	M005N10	M		X
ctg131	M008H15	M		X
ctg131	M014C08	M		X
ctg131	M027C08	M		X
ctg131	M030H12	M		X
ctg714	M001K11	D		X
ctg714	M014E03	D		X
ctg714	M015D02	L		X
ctg714	M022A09	L		
ctg714	M008B13	M	L	X
ctg714	I014O12	M		X
ctg714	M002D21	M		X

FIG. 9 (cont'd)

ctg714	M005O02	M		X
ctg716	M007E17	L		
ctg716	M009M02	L		
ctg716	M012L11	L		X
ctg716	M013P06	L		
ctg716	M016C04	L		
ctg716	M017E23	L		
ctg716	M017F07	L		
ctg716	M017H13	L		
ctg716	M019C15	L		
ctg716	M019I03	L		
ctg716	M021N19	L		
ctg716	M026D12	L		
ctg716	M026N02	L		
ctg716	M027L02	L		
ctg716	M028M23	L		
ctg716	M029D04	L		X
ctg716	I016J19	M	L	X
ctg716	I019I24	M	L	X
ctg716	I001G16	M		X
ctg716	I001M08	M		X
ctg716	I002A14	M		X
ctg716	I002D20	M		X
ctg716	I003B13	M		X
ctg716	I010K18	M		X
ctg716	I010M21	M		X
ctg716	I013M20	M		X
ctg716	I014C23	M		X
ctg716	I016J23	M		X
ctg716	I018L03	M		X
ctg716	I018O09	M		X
ctg716	I019J06	M		X
ctg716	I022N06	M		X
ctg716	I025L07	M		X
ctg716	I026D01	M		X
ctg716	I026L23	M		X
ctg716	I026M13	M		X
ctg716	I027K03	M		X
ctg716	I027K06	M		X
ctg716	M008B19	M		X
ctg716	M008C21	M		X
ctg716	M009P18	M		X
ctg716	M015F17	M		X
ctg718	M001P24	L		
ctg718	M003K08	L		
ctg718	M004K13	L		
ctg718	M005A16	L		

FIG. 9 (cont'd)

ctg718	M005C11	L		
ctg718	M010H16	L		
ctg718	M011F08	L		
ctg718	M017D14	L		
ctg718	M021D01	L		
ctg718	M025C01	L		
ctg718	M030A22	L		
ctg718	M003L04	M		X
ctg718	M029O11	M		-
ctg719	M009D11	L		
ctg719	I028F20	M	L	X
ctg719	M018B03	M	L	
ctg719	M018I19	M	L	
ctg719	M022B09	M	L	
ctg719	M022C13	M	L	
ctg719	M022F21	M	L	
ctg719	M024F23	M	L	
ctg719	M026G23	M	L	
ctg719	I021A14	M		
ctg719	M003D23	M		
ctg719	M004H03	M		
ctg719	M012F24	M		
ctg719	M012P19	M		
ctg719	M015N15	M		
ctg719	M019I19	M		
ctg719	M020G07	M		
ctg719	M027I20	M		
ctg731	M006D10	D	L	X
ctg731	M001I15	D		X
ctg731	M009K02	D		X
ctg731	M025C15	D		
ctg731	M025F15	D		X
ctg731	M026J06	D		X
ctg731	I023D07	L		X
ctg731	M002G13	M	L	
ctg731	M010F10	M	L	
ctg731	M015N04	M	L	
ctg731	M016C01	M	L	
ctg731	M016F22	M	L	
ctg731	M018P07	M	L	
ctg731	M022E07	M	L	
ctg731	M028G19	M	L	
ctg731	I002D01	M		
ctg731	I002O08	M		
ctg731	I009A07	M		
ctg731	I012M11	M		X
ctg731	I024N16	M		X

FIG. 9 (cont'd)

ctg731	M001J06	M		X
ctg731	M007K14	M		X
ctg731	M008O12	M		
ctg731	M009J24	M		
ctg731	M016M09	M		
ctg731	M021I24	M		
ctg731	M024I09	M		
ctg731	M024O05	M		
ctg735	M001E12	L		X
ctg735	M007D03	L		X
ctg735	M008A02	L		
ctg735	M008D07	L		X
ctg735	M008I22	L		
ctg735	M009B19	L		X
ctg735	M010F09	L		
ctg735	M019C10	L		
ctg735	M020F11	L		X
ctg735	M021D19	L		X
ctg735	M023H20	L		X
ctg735	M024D20	L		
ctg735	M026O08	L		X
ctg735	I022E20	M	M	
ctg735	I008O19	M		
ctg735	I015N16	M		X
ctg735	I026A24	M		X
ctg735	I027P20	M		
ctg735	M006B01	M		X
ctg735	M010H12	M		X
ctg735	M011M16	M		X
ctg735	M011P23	M		X
ctg735	M013A18	M		
ctg735	M015D18	M		X
ctg735	M019J16	M		X
ctg735	M022G04	M		X
ctg735	M027I17	M		X
ctg735	M028P17	M		X
ctg735	M029A14	M		X
ctg735	M029J04	M		X
ctg735	M029K18	M		X
ctg735	M032K16	M		X
ctg736	I012P01	D		X
ctg736	M003P12	D		X
ctg736	M007H11	D		X
ctg736	M003P01	L		
ctg736	M021I16	L		X
ctg736	M025M16	L		
ctg736	M027H04	L		

FIG. 9 (cont'd)

ctg736	M029A06	L		
ctg736	I002C13	M		X
ctg736	I004B15	M		X
ctg736	I004C11	M		X
ctg736	I007C04	M		X
ctg736	I009K02	M		X
ctg736	I013D07	M		X
ctg736	I023F23	M		X
ctg736	I028G24	M		X
ctg736	M001P15	M		X
ctg736	M021M13	M		X
ctg830	M003A09	L		
ctg830	M006E22	L		
ctg830	M006M12	L		
ctg830	M007B18	L		
ctg830	M012L15	L		
ctg830	M013E20	L		
ctg830	M013H16	L		
ctg830	M013J14	L		
ctg830	M015E08	L		
ctg830	M016E01	L		
ctg830	M016N03	L		
ctg830	M017C13	L		
ctg830	M017D02	L		
ctg830	M019M10	L		
ctg830	M020H14	L		
ctg830	M020I24	L		
ctg830	M020J16	L		
ctg830	M021B02	L		
ctg830	M024O13	L		
ctg830	M025B04	L		
ctg830	M026G05	L		
ctg830	M026H12	L		
ctg830	M027L15	L		
ctg830	M027N03	L		
ctg830	M028N05	L		
ctg830	M009E16	M		
ctg830	M026B13	M		
ctg920	M001B22	L		
ctg920	M005C15	L		
ctg920	M008A04	L		X
ctg920	M008G13	L		X
ctg920	M010I15	L		
ctg920	M019K14	L		X
ctg920	M019L15	L		X
ctg920	I027O22	M	L	X
ctg920	I020O07	M		

FIG. 9 (cont'd)

ctg920	M002B21	M		X
ctg920	M009B06	M		X
ctg920	M010I01	M		X
ctg920	M022G20	M		X
ctg975	M024F19	D		X
ctg975	M007D21	L		
ctg975	M026C24	L		
ctg975	M008B22	M		X
ctg975	M013M01	M		
ctg975	M019J02	M		X
ctg975	M024K14	M		X
ctg975	M030D03	M		X
ctg975	M003C09			X
	I007O17	D	L	X
	I012D05	D	L	X
	I013O09	D	L	X
	I014L09	D	L	X
	I016A19	D	L	X
	I016P22	D	L	X
	I018I01	D	L	X
	I019B14	D	L	X
	I019M02	D	L	X
	I020J17	D	L	X
	I022C06	D	L	X
	I022O01	D	L	X
	I023N22	D	L	X
	I024H11	D	L	X
	I025E03	D	L	X
	I027B23	D	L	X
	I027H06	D	L	X
	M002J17	D	L	X
	M006G07	D	L	X
	M008H11	D	L	X
	M008P11	D	L	X
	M010H23	D	L	X
	M010J15	D	L	X
	M026C07	D	L	X
	M032D01	D	L	
	M001K03	D	M	X
	I001D22	D		X
	I002B10	D		X
	I008D12	D		X
	I010C20	D		X
	I010D10	D		X
	I010G18	D		X
	I011G22	D		X
	I013B16	D		X

FIG. 9 (cont'd)

	I013C23	D		X
	I013G06	D		X
	I013J05	D		X
	I013L02	D		X
	I013O07	D		X
	I013O15	D		X
	I014B11	D		X
	I014B12	D		X
	I014C24	D		X
	I014E09	D		X
	I014M09	D		X
	I014N24	D		X
	I015C11	D		X
	I015G11	D		X
	I015K18	D		X
	I015M20	D		X
	I016H14	D		X
	I017A03	D		X
	I017C07	D		X
	I017C18	D		X
	I017D16	D		X
	I017H23	D		X
	I017M11	D		X
	I018A13	D		X
	I018D05	D		X
	I018E13	D		X
	I018H10	D		X
	I018I18	D		X
	I018K08	D		X
	I018M19	D		X
	I019C12	D		X
	I019H12	D		X
	I021A24	D		X
	I021C12	D		X
	I021F21	D		X
	I021M22	D		X
	I021P14	D		X
	I022A19	D		X
	I022B12	D		X
	I022B17	D		X
	I022D24	D		X
	I022J10	D		X
	I022K16	D		X
	I023A09	D		X
	I023C12	D		X
	I024I11	D		X
	I025C16	D		X

FIG. 9 (cont'd)

	I025E06	D		X
	I025F23	D		X
	I025G18	D		X
	I025H17	D		X
	I026A23	D		X
	I026C12	D		X
	I026D12	D		X
	I026D14	D		X
	I026G07	D		X
	I026O02	D		X
	I026O14	D		X
	I027A15	D		X
	I027B10	D		X
	I027D12	D		X
	I027E04	D		X
	I027F10	D		X
	I027L14	D		X
	I028B05	D		X
	I028D23	D		X
	M001N01	D		X
	M001N08	D		X
	M001O18	D		
	M002E19	D		X
	M002K23	D		X
	M005H16	D		X
	M005J21	D		X
	M005N16	D		X
	M006F01	D		X
	M007B16	D		X
	M007D23	D		X
	M007J23	D		X
	M009B16	D		X
	M009C09	D		X
	M009F22	D		X
	M009I18	D		X
	M010K03	D		X
	M011G03	D		X
	M011M01	D		X
	M017H09	D		X
	M019I12	D		
	M023G15	D		X
	M025A01	D		X
	M026N03	D		X
	M028A03	D		X
	M028F01	D		X
	M029C10	D		
	M029H17	D		

FIG. 9 (cont'd)

	M029K02	D		
	M029K06	D		X
	M029M23	D		X
	I005P18	L		
	I010H02	L		
	I013J19	L		
	I019N07	L		
	I021J24	L		
	I025L21	L		-
	I026G01	L		
	I027L06	L		X
	M002L18	L		X
	M002M24	L		
	M003O24	L		
	M005A24	L		
	M005B19	L		X
	M006L23	L		X
	M008I11	L		X
	M008K13	L		X
	M010J22	L		
	M011C22	L		
	M011E15	L		
	M011F01	L		
	M011F13	L		
	M011M14	L		
	M013C20	L		
	M014F06	L		
	M014I21	L		
	M015H20	L		
	M016E04	L		
	M016L02	L		
	M017E02	L		
	M017N06	L		
	M018B14	L		
	M019B10	L		
	M021A21	L		
	M021B20	L		
	M023O24	L		
	M023P23	L		
	M024C04	L		
	M025M04	L		
	M026D01	L		
	M026H16	L		
	M026P17	L		
	M028A24	L		
	M029A21	L		
	M029H16	L		

FIG. 9 (cont'd)

	M029M19	L		
	M029N02	L		
	M030A19	L		
	M030D01	L		
	M030D14	L		
	M030H19	L		
	M030I09	L		
	M030O21	L		
	M031D15	L		
	M031E05	L		
	M031E12	L		
	M031I08	L		
	M031I12	L		
	M031O05	L		
	M032E22	L		
	M032L02	L		
	M032N16	L		
	I001E03	M	L	
	I001F17	M	L	
	I002A10	M	L	
	I002E22	M	L	
	I002F07	M	L	
	I004M20	M	L	
	I005B09	M	L	
	I005C10	M	L	
	I005C20	M	L	
	I005E17	M	L	
	I008B06	M	L	X
	I008K19	M	L	
	I009B15	M	L	
	I009I07	M	L	
	I009I11	M	L	
	I009I20	M	L	
	I009N10	M	L	
	I009N20	M	L	X
	I009O14	M	L	
	I011J02	M	L	
	I011J23	M	L	X
	I012C11	M	L	
	I012I02	M	L	
	I012J21	M	L	X
	I012L23	M	L	
	I012N22	M	L	
	I013B09	M	L	
	I013C16	M	L	
	I013F09	M	L	
	I013O01	M	L	

FIG. 9 (cont'd)

	I014C08	M	L	
	I014D22	M	L	
	I015J09	M	L	
	I015M09	M	L	
	I015P10	M	L	
	I016P21	M	L	X
	I017G12	M	L	
	I018B19	M	L	
	I018C21	M	L	-
	I018D11	M	L	
	I018E15	M	L	
	I018E22	M	L	
	I019I14	M	L	X
	I019L14	M	L	
	I020P08	M	L	X
	I021A10	M	L	
	I021B12	M	L	
	I021H12	M	L	
	I023I15	M	L	X
	I024E17	M	L	
	I024I18	M	L	X
	I024J04	M	L	X
	I024P14	M	L	X
	I024P21	M	L	
	I025B17	M	L	
	I025H03	M	L	
	I025M08	M	L	
	I026F23	M	L	
	I026G19	M	L	
	I027B04	M	L	
	I027E03	M	L	X
	I027I06	M	L	X
	I027I07	M	L	
	I027I11	M	L	X
	I027I24	M	L	X
	I027M21	M	L	
	I028F18	M	L	X
	I028K23	M	L	
	I028M05	M	L	X
	M002I24	M	L	X
	M012E24	M	L	
	M016A13	M	L	
	M016G02	M	L	
	M018H12	M	L	
	M020J13	M	L	
	M022G12	M	L	
	M022I05	M	L	

FIG. 9 (cont'd)

	M024C15	M	L	
	M024I07	M	L	
	M026F04	M	L	
	M030B01	M	L	
	M031N02	M	L	
	M032B03	M	L	
	I001B14	M		
	I001C18	M		X
	I001H07	M		X
	I001L17	M		X
	I002D21	M		
	I002H01	M		X
	I002K19	M		X
	I003H18	M		X
	I003I08	M		
	I003L07	M		
	I004I08	M		
	I004P20	M		X
	I005D16	M		
	I005G01	M		
	I006B23	M		X
	I006D11	M		
	I006D18	M		
	I006E17	M		X
	I006J03	M		X
	I007C10	M		X
	I007C15	M		X
	I007C19	M		X
	I007E05	M		X
	I007K13	M		
	I007N08	M		
	I007O08	M		
	I008D05	M		X
	I008D08	M		X
	I008F19	M		X
	I008O14	M		X
	I008O23	M		X
	I009B09	M		X
	I009F16	M		X
	I009G13	M		X
	I009L22	M		X
	I009N18	M		X
	I010B14	M		X
	I010D22	M		
	I010E16	M		X
	I010G01	M		X
	I010I01	M		X

FIG. 9 (cont'd)

	I010I09	M		
	I010I23	M		X
	I010J09	M		
	I010J10	M		X
	I010J17	M		X
	I010K03	M		X
	I010L16	M		X
	I010L18	M		X
	I010M07	M		X
	I010M15	M		X
	I010N22	M		X
	I010O06	M		X
	I011C05	M		X
	I011E11	M		X
	I011G08	M		
	I011J04	M		X
	I011J07	M		
	I011K16	M		
	I011L07	M		
	I011M07	M		
	I011M11	M		X
	I011P07	M		X
	I011P08	M		
	I012B04	M		
	I012B09	M		X
	I012C07	M		
	I012D11	M		X
	I012E06	M		X
	I012G03	M		X
	I012I07	M		X
	I012J04	M		X
	I012J17	M		X
	I012M07	M		X
	I012N23	M		
	I012P12	M		X
	I013B13	M		
	I013C19	M		X
	I013D10	M		
	I013F15	M		X
	I013G10	M		
	I013H19	M		X
	I013L09	M		X
	I013O15	M		
	I013O13	M		X
	I014A02	M		X
	I014A18	M		X
	I014H15	M		X

FIG. 9 (cont'd)

I014I07	M		X
I014I10	M		
I014J08	M		X
I014K02	M		X
I014M14	M		
I014M22	M		X
I014P17	M		X
I015B19	M		X
I015B23	M		X
I015D16	M		
I015E15	M		X
I015E24	M		X
I015F22	M		X
I015F24	M		X
I015I05	M		X
I015J08	M		
I015L23	M		X
I015M22	M		X
I016D08	M		X
I016D21	M		
I016G08	M		X
I016G23	M		X
I016H08	M		X
I016I12	M		X
I016J03	M		
I016K12	M		X
I016L05	M		X
I016L11	M		X
I016L13	M		X
I016O13	M		X
I017B03	M		X
I017E12	M		X
I017F19	M		X
I017F20	M		
I017H02	M		X
I017H04	M		X
I017L13	M		
I017L18	M		X
I018B05	M		
I018D09	M		
I018D17	M		X
I018G14	M		
I018L19	M		X
I018L20	M		
I018P11	M		X
I019A21	M		X
I019F08	M		X

FIG. 9 (cont'd)

I019F21	M		
I019I08	M		
I019J08	M		
I019M11	M		X
I019N13	M		X
I019O12	M		X
I019O13	M		X
I020C08	M		X
I020C09	M		X
I020C21	M		X
I020D07	M		
I020D08	M		X
I020F02	M		X
I020G12	M		
I020H10	M		X
I020I23	M		X
I020K12	M		
I020K22	M		
I020P02	M		X
I021A01	M		X
I021A09	M		X
I021A18	M		X
I021B20	M		X
I021F07	M		X
I021F13	M		
I021F17	M		X
I021H11	M		
I021K21	M		X
I021L06	M		X
I022D07	M		X
I022D12	M		
I022H09	M		X
I022I07	M		X
I022N13	M		
I022O10	M		X
I022O24	M		
I022P16	M		X
I022P18	M		X
I023A18	M		X
I023B15	M		
I023F02	M		
I023G09	M		X
I023H08	M		
I023J10	M		X
I023K05	M		X
I023L07	M		
I023N04	M		X

FIG. 9 (cont'd)

	I023P06	M		
	I024B10	M		
	I024C14	M		
	I024E18	M		X
	I024E19	M		
	I024F11	M		X
	I024G08	M		X
	I024M20	M		
	I024M23	M		
	I025A13	M		
	I025B02	M		
	I025H15	M		
	I025K04	M		
	I025K16	M		X
	I025M19	M		
	I026A21	M		
	I026A22	M		X
	I026C10	M		
	I026G04	M		X
	I026I07	M		X
	I026I20	M		
	I026K04	M		
	I026N05	M		X
	I026N23	M		X
	I027A14	M		
	I027A18	M		X
	I027B24	M		X
	I027C09	M		
	I027C20	M		X
	I027D08	M		
	I027F08	M		
	I027G17	M		X
	I027I04	M		X
	I027K08	M		
	I027M15	M		
	I027N19	M		
	I027P14	M		X
	I028A17	M		
	I028F04	M		
	I028F24	M		X
	I028G15	M		
	I028H05	M		
	I028I01	M		
	I028I02	M		
	I028I13	M		X
	I028L02	M		
	I028N05	M		X

FIG. 9 (cont'd)

	I028N14	M		X
	M001C24	M		
	M001J16	M		
	M001M11	M		X
	M002C22	M		X
	M002J18	M		X
	M002N17	M		X
	M003N18	M		
	M003N20	M		
	M003P22	M		
	M004G02	M		X
	M005B07	M		X
	M007E20	M		
	M007H06	M		X
	M007H21	M		
	M007P19	M		
	M008H05	M		X
	M008N22	M		X
	M008P08	M		X
	M009B11	M		X
	M009F04	M		X
	M009K21	M		
	M010P04	M		X
	M011I16	M		
	M011I19	M		
	M011J18	M		X
	M011J19	M		
	M011M20	M		
	M011P21	M		
	M013G20	M		
	M013H08	M		X
	M013I24	M		
	M013J23	M		
	M013K05	M		
	M013K09	M		
	M013N24	M		
	M015A07	M		
	M015A20	M		
	M015E17	M		
	M015G16	M		
	M015I20	M		
	M015I21	M		
	M015K15	M		
	M015L10	M		X
	M015M09	M		
	M015M14	M		
	M015M15	M		

FIG. 9 (cont'd)

	M015M20	M		
	M016F03	M		
	M017A17	M		
	M017A23	M		
	M017B08	M		X
	M017C19	M		
	M017F12	M		
	M017I24	M		
	M017J08	M		
	M017K05	M		
	M017O11	M		
	M017P18	M		
	M019E13	M		
	M019G18	M		
	M019I17	M		
	M019K09	M		
	M019L14	M		
	M019O15	M		
	M019P22	M		
	M020I23	M		
	M020O15	M		
	M021A19	M		
	M021E21	M		
	M021G09	M		
	M021I22	M		
	M021J13	M		
	M021J16	M		
	M021M23	M		
	M021O23	M		
	M022O17	M		
	M023C22	M		
	M023J14	M		
	M023N20	M		
	M023O08	M		
	M023O09	M		
	M023O18	M		
	M023P11	M		
	M025D03	M		X
	M025D20	M		
	M025E17	M		
	M025H06	M		X
	M025J22	M		X
	M025O24	M		
	M026O17	M		
	M027H13	M		
	M027J21	M		
	M027K17	M		

FIG. 9 (cont'd)

	M027M20	M		
	M027O09	M		
	M027O14	M		
	M027O17	M		
	M028P08	M		
	M028P14	M		X
	M029A07	M		
	M029B16	M		
	M029G12	M		
	M029I19	M		
	M029M22	M		
	M029P10	M		
	M029P15	M		
	M030E15	M		X
	M030F14	M		
	M030G01	M		
	M030O17	M		
	M031C19	M		
	M031H15	M		X
	M031N08	M		X
	M032D14	M		X
	M032J13	M		X

FIG. 9 (cont'd)

1. Centromere BACs can be labeled by heavily methylated DNA fragments

CONTIGS	BAC NAME	HEAVILY METHYLATED DNA	LIGHT or NON-METHYLATED DNA	180 BACS
ctg1125	I009K06	D		X
ctg1125	I010J11	D		X
ctg131	M004G17	D		X
ctg131	M006C20	D		X
ctg731	M026J06	D		X
ctg736	I012P01	D		X
ctg735	M020F11	L		X
ctg735	M021D19	L		X
ctg920	M019K14	L		X
ctg920	M019L15	L		X
ctg1077	I017M13	M		X
ctg1077	I017O19	M		X
ctg11	M015F10	M		
ctg11	M020L24	M		
ctg719	M004H03	M		
ctg719	M012F24	M		
Ctg0	I007C19	M		X
Ctg0	I007E05	M		X
Ctg0	I007K13	M		
Ctg0	I007N08	M		
Ctg0	I007O08	M		

2. rDNA BACs can be labeled by both way

CONTIGS	BAC NAME	HEAVILY METHYLATED DNA	LIGHT or NON-METHYLATED DNA	180 BACS
ctg4	I012D17	M	M	
ctg4	I013A06	M	M	
ctg4	I013G04	M	M	
ctg4	I013M21	M	M	
ctg4	I014D06	M	M	
Ctg0	I003E12	M	M	
Ctg0	I003F05	M	M	
Ctg0	I003F10	M	M	

3. 180 BACs could be not labeled if they are locate out of centromere

CONTIGS	BAC NAME	HEAVILY METHYLATED DNA	LIGHT or NON-METHYLATED DNA	180 BACS
ctg757	M009N20			X
ctg764	I028H14			X
ctg766	I024J11			X
ctg768	I028K13			X
ctg772	I028O13			X
ctg778	I014J02			X

FIG. 10

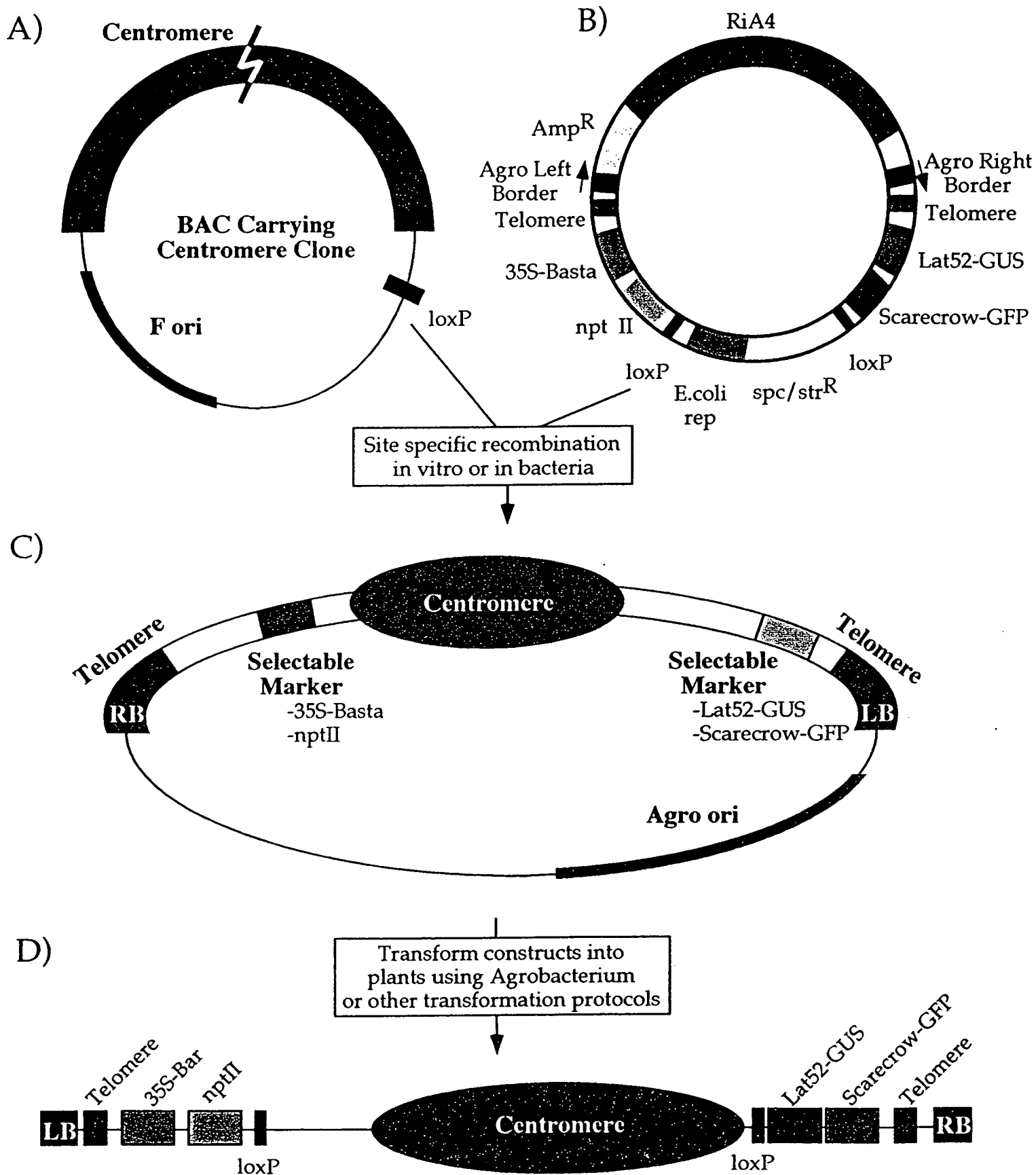


FIG. 11

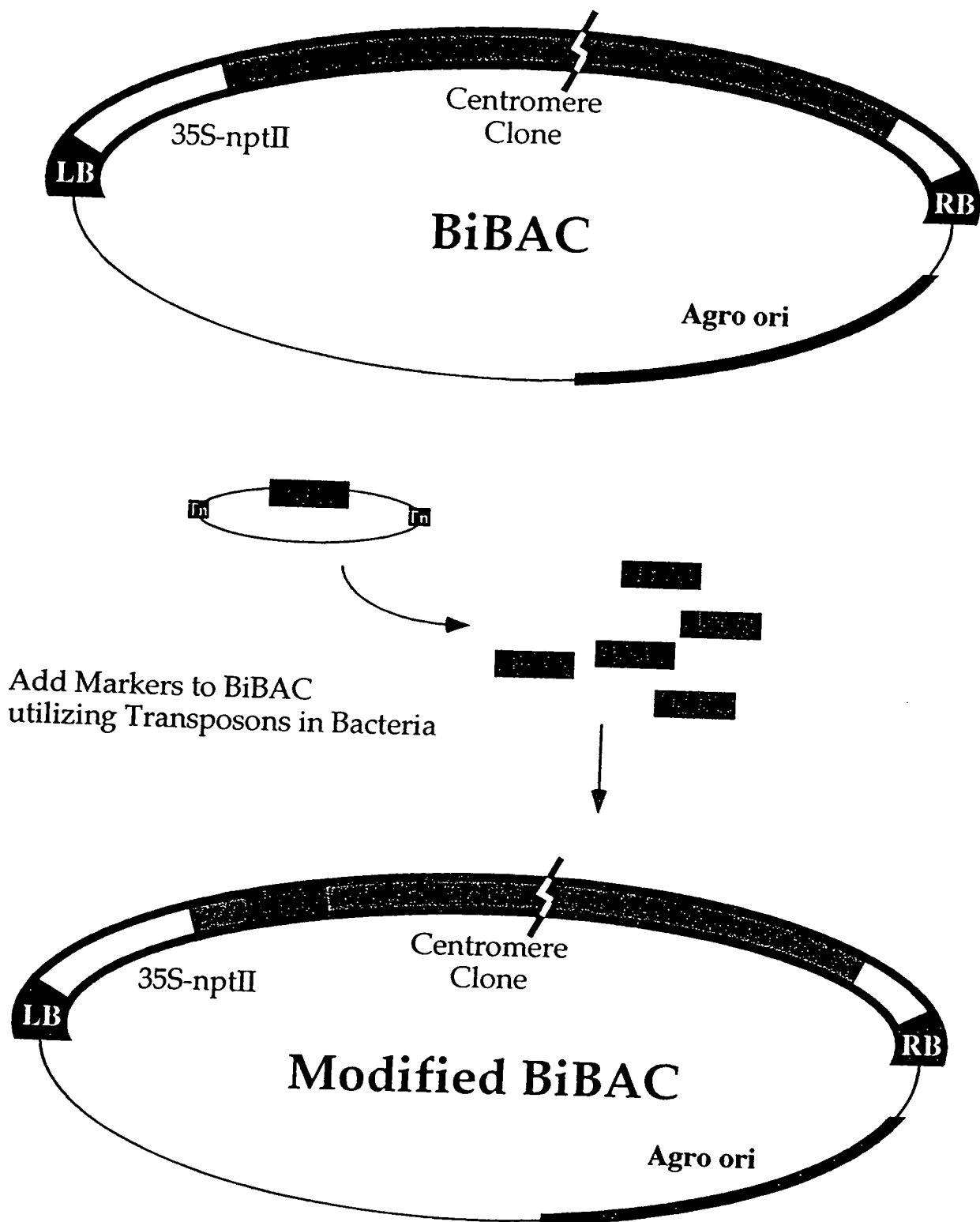
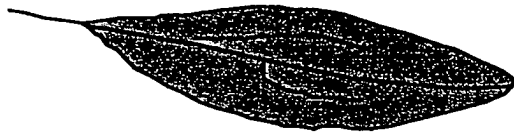


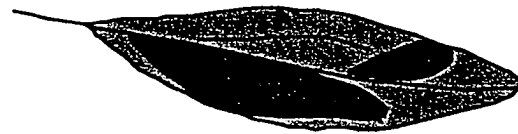
FIG. 12

Measuring centromere functions in plant mini-chromosomes

Qualitative assays

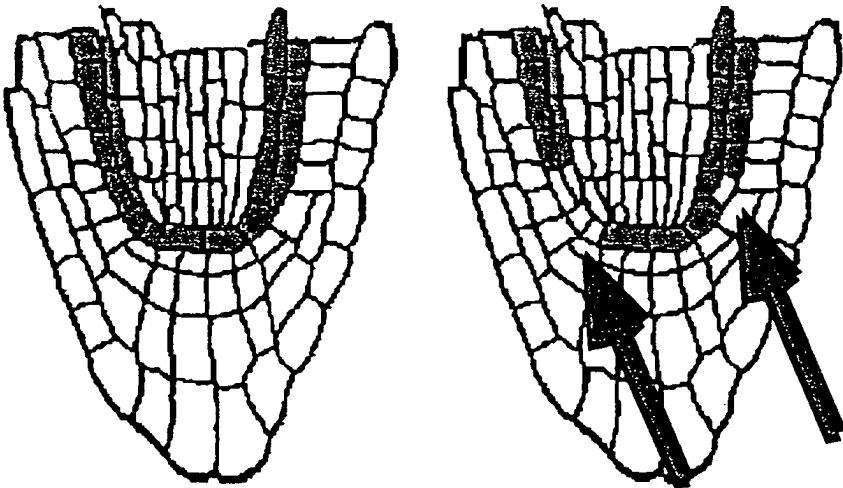


Stable

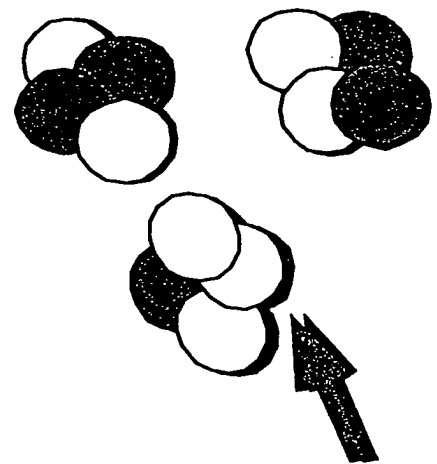


Unstable

Quantitative assays



Mitosis



Meiosis

FIG. 13